

Number	BMP and Objective	Included
N12	<p><b>Employee Training:</b> Practical informational materials and/or training are provided to employees to increase their understanding of stormwater quality, sources of pollutants, and their responsibility for reducing pollutants in stormwater.</p> <p>Post construction, an employee training/education program will be established as it would apply to future employees, contractors of the HOA, and HOA volunteers to inform and train employees engaged in maintenance activities regarding the impact of dumping oil, paints, solvents or other potentially harmful chemicals into storm drain; the proper use of fertilizers and pesticides in landscaping maintenance practices; and the impacts of littering and improper water disposal.</p>	Y
N13	<p><b>Housekeeping of Loading Docks:</b> Cleaning and clean up procedures are specified and implemented for loading dock areas to keep the area free for pollutants and reduce associated pollutant discharges.</p> <p>Not applicable. No Loading docks proposed.</p>	N
N14	<p><b>Drainage Facility Inspection:</b> Inspection procedures, schedules, and responsibilities are established for drainage facilities to ensure regular cleaning, inspection, and maintenance.</p> <p>All project drainage facilities will be owned, inspected and maintained by the HOA. Area drains will be inspected on a weekly basis in conjunction with landscape maintenance operations and maintained as necessary. Catch basin maintenance will consist of manual and/or vacuum removal of silt and debris from the bottom of the basins and the entrance of the storm drain. This will be done at minimum on a yearly basis, and prior to the storm season, no later than October 1<sup>st</sup> of each year. The modular wetlands system will be inspected a minimum of once every six months, per the manufacturer's guidelines.</p>	Y
N15	<p><b>Street Sweeping Private Streets and Parking Lots:</b> Street sweeping frequency and responsible parties are identified and regular sweeping is conducted to reduce pollution of drainage water. Street sweeping shall take place on a weekly basis.</p> <p>During construction and prior to the acceptance of the project streets for maintenance by the HOA, the project developer will have all streets and any parking areas vacuum swept on a weekly basis. This procedure will be intensified around October 1<sup>st</sup> of each year prior to the "first flush" storm. After acceptance of all streets for maintenance as described herein, above, the HOA shall be responsible for street sweeping.</p>	Y
N17	<p><b>Retail Gasoline Outlets:</b> Specific operational and maintenance BMPs are implemented to the extent feasible to reduce potential for pollutant discharge from wash off by runoff, leaks, and spills.</p> <p>Not applicable. No retail gasoline outlets proposed.</p>	N

Number	BMP and Objective	Included
<b>Source Control Structural BMPs (numbers correspond to the California BMP Handbook)</b>		
SD-10	<p><b>Site Design and Landscape Planning:</b> Landscape planning methodologies are incorporated into project design to maximize water storage and infiltration opportunities and minimize surface and groundwater contamination from stormwater.</p> <p>The project has incorporated Site Design and Landscape Planning methodologies such as minimizing impervious footprint, incorporation of landscaped buffers and use of native and drought tolerant species as previously detailed in section 6.1 of this report.</p>	Y
SD-11	<p><b>Roof Runoff Controls:</b> Direct roof runoff away from paved areas and to pervious areas, cisterns, infiltration trenches, and/or storage areas for reuse to reduce total volume and rate of site runoff and retain pollutant on site.</p> <p>Rooftops will not flow directly to landscaped areas to avoid the potential for erosion and foundation problems that can result for medium to highly expansive soils. Roof drains will be attached to area drain system prior to flowing to the project's treatment BMP.</p>	N
SD-12	<p><b>Efficient Irrigation:</b> Project plans include application methods to minimize irrigation water discharged into stormwater drainage systems.</p> <p>Efficient irrigation practices will be consistent with the City of Lake Forest Municipal Code § 9.146.110 (Landscaping) and Chapter 15.14 (Stormwater Quality Management Ordinance). Irrigation systems shall be automatically controlled and designed, installed, and maintained so as to minimize overspray and runoff onto streets, sidewalks, driveways, structures, windows, walls, and fences. Provisions such as water sensors, programmable irrigation times (for short cycles) etc. will be used. These devices will be maintained by the HOA.</p>	Y
SD-13	<p><b>Storm Drain System Signs:</b> Stencils or affixed signs a placed adjacent to storm drain inlets to prevent waste dumping at storm drain inlets.</p> <p>As a part of the final civil engineering drawings it will be required by the contractor to label all of the project's catch basins where applicable in paved areas, with catch basin markers which state: "No Dumping - Drains to Ocean, No Descargue Basura". This will be done in a location that can be clearly seen by all and will be inspected annually, at minimum and re-labeled, as necessary. Thereafter, the owner/operator shall routinely inspect and re-label the catch basins, as necessary.</p>	Y

Number	BMP and Objective	Included
SD-20	<p><b>Pervious Pavements:</b> Porous concrete or asphalt, blocks with pervious spaces or joints, or grass or gravel surfaces are employed to reduce runoff volume and provides treatment.</p> <p>Due to medium to high soil expansion level, the use of permeable pavement is not desirable as it may compromise adjacent structures. Per recommendations of the project Soils Report, all sidewalks and other concrete flatwork should include joints at approximately 10 feet spacing to avoid cracking.</p> <p>No permeable pavement has been planned for project. Granular materials were not considered because the efficiency of this type of infiltration system quickly becomes negated by predictable sediment accumulation and maintenance costs are extremely high because entire system must be removed and replaced on a periodic basis.</p>	N
SD-21	<p><b>Alternative Building Materials:</b> Specialized building materials are employed that have lower potential to leach pollutants, and reduce need for future painting or other pollutant generating maintenance activities. For example, some treated wood contains pollutants that can leach out to the environment and some metal roofs and roofing materials result in high metal content in runoff.</p> <p>Currently no alternative building materials have been proposed. They will be considered during construction of the project and if employed, will be amended to the approved WQMP.</p>	N
SD-30	<p><b>Fueling Areas:</b> Project plans are developed for cleaning, spill cleanup, containment, leak prevention, and incorporation of design to reduce rain and runoff that could come in contact with fueling areas.</p> <p>Not applicable. No fueling areas are proposed for site.</p>	N/A
SD-31	<p><b>Maintenance Bays and Docks:</b> Project design incorporates measures to cover or otherwise eliminate run-on and off from bays and docks, and direct connections to storm drain are eliminated.</p> <p>Not applicable. No maintenance bays or docks have been proposed for site.</p>	N/A
SD-32	<p><b>Trash Enclosures:</b> Trash storage areas are covered and enclosed to prevent introduction of trash and debris to site runoff.</p> <p>Residents of residential dwelling units will store covered trash containers in individual garage spaces. Trash enclosures are not proposed for this project. This will be specified and enforceable through the HOA via provisions in the CC&amp;Rs. Normal homeowner use related trash can be anticipated to be produced daily. Lake Forest residents typically use a 3 cart system for recyclables, trash, and green waste. Trash will be removed by the local private solid waste management contractor on a weekly basis for proper disposal of the trash to landfill. Further information about trash pickup in the City of Lake Forest can be found at this site: <a href="http://www.wmorangecounty.com/cities/lakeforest.asp">http://www.wmorangecounty.com/cities/lakeforest.asp</a></p>	Y
SD-33	<p><b>Vehicle and Equipment Washing Areas:</b> Designated wash areas or facilities are contained and wash water is reused, treated, or otherwise properly disposed of.</p> <p>Not applicable. No Vehicle and Equipment Wash Areas proposed for site.</p>	N/A
SD-34	<p><b>Outdoor Material Storage Areas:</b> Outdoor storage areas for materials containing pollutants, especially hazardous materials, are covered and enclosed, on impervious surfaces, and include secondary containment when applicable.</p>	N/A

Number	BMP and Objective	Included
	Not applicable. No Outdoor Material Storage Areas proposed for site.	
SD-35	<b>Outdoor Work Areas:</b> Outdoor work areas are covered, contained, and treated as necessary to reduce opportunity of pollutants from work activities to enter stormwater.  Not applicable. No Outdoor Work Areas proposed for site.	N/A
SD-36	<b>Outdoor Processing Areas:</b> Outdoor processing areas are covered, contained, and treated as necessary to reduce opportunity of pollutants from work activities to enter stormwater.  Not applicable. No Outdoor Processing Areas proposed for site.	N/A

### 6.3 Treatment Control BMPs

Treatment control BMPs utilize treatment mechanisms to remove pollutants that have entered stormwater runoff and consist of public domain BMPs (identified in the following table with as TC-##) and manufactured or proprietary BMPs (identified in the following table with as MP-##). BMP numbers correspond to the California BMP Handbook.

The following table identifies the treatment control BMPs included in the proposed project.

Table 6.2 Treatment Control BMPs

Number	BMP and Objective	Included
<b><i>Infiltration</i></b>		
TC-10	<b>Infiltration Trench:</b> A long narrow rock filled trench with no outlet receives water and stores it until it infiltrates into the underlying soil. It is effective at removing most pollutants but can get clogged with sediment.  Not proposed for the project	N
TC-11	<b>Infiltration Basin:</b> A shallow impoundment designed to capture and hold stormwater until it infiltrates into underlying soil. Effective at removing most pollutants but requires large areas and may be constrained by soil types.  Soils report recommends avoiding areas that promote "ponding". Not desirable for a hill with slopes and retaining walls. Possible vector concerns. See attached letter from soils engineer dated July 19, 2011, Appendix C.	N
TC-12	<b>Retention/Irrigation:</b> Stormwater is captured in cistern, basin, trench, or other storage area and is subsequently used for irrigation of site landscaping.  Vector issues from retention could pose a problem.	N
<b><i>Detention and Settling</i></b>		
TC-20	<b>Wet Pond:</b> A constructed basin with a permanent pool of water throughout the year. Differ from wetlands because it is of greater depth. Treats stormwater runoff by settling and biological uptake.	N

Number	BMP and Objective	Included
	Soils report recommends avoiding areas that promote "ponding". Not desirable for a hill with slopes and retaining walls. Possible vector concerns. See attached letter from soils engineer dated July 19, 2011, Appendix C.	
TC-21	<b>Constructed Wetland:</b> A constructed basin with permanent pool of shallow water throughout most of year with substantial vegetative coverage.  Not desirable for a hill with slopes and retaining walls. Possible vector concerns. See attached letter from soils engineer dated July 19, 2011, Appendix C.	N
TC-22	<b>Extended Detention Basin:</b> A constructed basin with an outlet designed to detain storm water for at least 48 hours to allow particles and pollutants to settle.  Not desirable for a hill with slopes and retaining walls. Possible vector concerns. Per Geosoils, Inc. letter dated July 19, 2011, their report provides recommendations against installing infiltration devices on the subject site. A copy of this letter is provided as reference in Appendix C.	N
MP-20	<b>Wetland:</b> Similar to a constructed wetland but a self contained, manufactured module with vegetation that mimics natural wetland processes.  Not desirable for a hill with slopes and retaining walls. Possible vector concerns. Per Geosoils, Inc. letter dated July 19, 2011, their report provides recommendations against installing infiltration devices on the subject site. A copy of this letter is provided as reference in Appendix C.	N
<b>Biofiltration</b>		
TC-30	<b>Vegetated Swale:</b> Open, shallow, vegetated channels that collect and slowly convey runoff through the property. Filters runoff through vegetation, subsoil matrix, and/or underlying soils; traps pollutants, promotes infiltration and reduce flow velocity.  Although landscaped areas are incorporated into the site plan to direct drainage over landscape and away from structural foundations, these landscaped areas do not have the length or slope necessary to meet the minimum hydraulic residence time of 5-9 minutes indicated in CASQA TC-30.	N
TC-31	<b>Vegetated Buffer Strip:</b> Vegetated surfaces that are designed to treat sheet flow from adjacent surfaces. Removes pollutants by deceleration, settling, and infiltration.  Landscaped areas graded to allow drainage to flow over landscaped areas prior to entering area drains or the street and private storm drain system have been incorporated. These are not design vegetated buffer strips as defined by CASQA TC-31. Drainage setbacks will be 5 per recommendations of the soils report'.	N
TC-32	<b>Bioretention:</b> A soil and plant based filtration strategy that involved capturing stormwater in depressed landscaped areas. Bioretention practices are flexible strategies for using landscaping as treatment.  Proposed for project as part of the MWS self contained treatment train. See TC-60 below.	Y
<b>Filtration</b>		
TC-40	<b>Media Filter:</b> Usually two-chambered with a pretreatment settling basin and a filter bed filled with sand or other absorptive filter media.	N

Number	BMP and Objective	Included
Not proposed for project.		
MP-40	<b>Media Filter:</b> Similar to constructed media filter but manufactured as self-contained filtering vaults, units, or cartridges.  Proposed for project as part of the MWS self contained treatment train. See TC-60 below.	Y
<b>Flow Through Separation</b>		
TC-50	<b>Water Quality Inlet:</b> Vaults with chambers including screens, settling areas, and/or filter media to promote settling and/or separation of pollutants from stormwater.  Not proposed for project	N
MP-50	<b>Wet Vault:</b> A vault with a permanent water pool and internal features to promote settling and/or separation of pollutants from stormwater.  Not proposed for project	N
MP-51	<b>Vortex Separator:</b> Similar to wet vaults but round and use centrifugal action as primary separation mechanism.  Not proposed for project.	N
MP-52	<b>Drain Inserts:</b> Boxes, trays, or socks with screens or filter fabric and may also include filter media. They are installed in inlets or catch basins and removal effectiveness for pollutants is generally low except for large sediment.  Not proposed for project. A modular wetland system is being provided, which is a self contained treatment train with four stages of treatment, the first stage includes a catch basin insert filter.	N
<b>Other</b>		
TC-60	<b>Multiple Systems:</b> A system that uses two or more BMPs in series to increase treatment. Useful when one BMP does not provide sufficient treatment alone.  Modular Wetland System – Linear which is a self contained treatment train with four stages of treatment (see below).	Y

### 6.3.1 SELECTION

Many factors were taken into consideration in selecting the proposed BMPs. These include anticipated pollutants, existing and proposed site conditions (such as grade constraints), feasibility of employment (feasibility of routing runoff to proposed BMP), ease of integrating the BMP into the overall land plan, visual aesthetics, public safety, ease of maintenance, as well as overall treatment effectiveness.

During the design process Detention Basins, Wet ponds (SQDV method BMPs) were briefly considered, but ruled out because of the project's rolling hillside nature. A treatment train incorporating the Abtech Smart Sponge Plus and the Contech StormFilter (SQDF method BMPs) was also considered but was ruled out for concerns regarding high installation and maintenance costs and disposal issues surrounding "spent" media.

The project is incorporating a total of nine (9) individual Modular Wetlands System (MWS) – Linear treatment control BMPs to provide a degree of treatment for project’s pollutants of concern. The MWS-Linear system is a complete self contained treatment train that incorporates capture, screening, sedimentation, filtration, bioretention, high flow bypass and a flow control into a single modular structure.

Sediments, a primary pollutant of concern, are captured in the first stage of the treatment train through Bioclean catch basin filters, then separated out in the second stage of treatment, from thereon, a BioMediaGREEN engineered filter media provides the third stage of treatment for sediment.

Bacteria and sediment, as a primary pollutant of concern, and Oxygen Demanding Substance will be addressed through the use of nine (9) MWSs. The Modular Wetland – Linear System is a self contained treatment train with four stages of treatment: screening, separation – dry state storage, media filtration and biofiltration. The fact it provides media filtration makes it fall into the “media filter” category which has a M/H rating. The separating – dry state stage of the system is similar to a extended detention basin in function, which also has a M/H rating.

Where treatment effectiveness is Unknown, such as with non-soil bound pesticides, it is expected that project Routine Source Control BMPs and good housekeeping measures should reduce or eliminate the potential effects of this project on downstream waters.

### **6.3.2 SIZING**

The nine (9) project MWS-Linear Treatment Control BMPs shall be designed using the Stormwater Quality Design Flow (SQDF) method described in the DAMP (C\*I\*A= QBMP ). Units are sized per manufacturer’s recommendations to treat for the required QBMP. Sizing calculations and a related hydrology analysis are provided in Appendices D and B, respectively.

Also, please see Appendix D for further design and product specifications.

### **6.3.3 LOCATION**

Essentially all of the site runoff will be treated via the MWS-Linear units. The units are located in two groupings four (4) located within Lot “A” and five (5) located within Lots “I” and “W” near the southern portion of the site. Other surface runoff will be treated via surface landscape filtration along and adjacent to the Utility Easement. Section 7 Exhibit A refers.

### **6.3.4 RESTRICTIONS ON USE OF INFILTRATION BMPS**

The proposed project does not propose infiltration BMPs. The “Limited Preliminary Geotechnical Investigation Serrano Highlands Tentative Tract 15594, City of Lake Forest, California”, prepared for Madison Investors, LP, by GeoSoils, Inc generally advises against preventing conditions that cause ponding of water and overly wet conditions, under sections on Drainage and Slope Maintenance and Planting. (Appendix C, Page 23). Furthermore, a letter is provided in Appendix C dated July 19, 2011 by Geosoils, Inc. regarding ponding and infiltration of water potential. The use of detention/infiltration devices is not recommended per this letter.

**SECTION 7**

## Section 7 Project Plan and BMP Location Map

Figure 7.1 illustrates the proposed project and the Source Control structural and Treatment BMPs that will be implemented pursuant to this WQMP. The following checklist identifies the required information that is included in the BMP map.

Included	Requirement
✓	Legend, north arrow, scale
✓	Show drainage arrows, and drainage areas
✓	Entire property on one map (provided sufficient detail is shown)
✓	Show structures to be constructed and removed
✓	Show proposed and existing storm drain systems
✓	Show all external hardscape surfaces such as walkways, driveways, pools, spas, patio areas etc.
✓	Indicate the landscape areas and planters
✓	Show nearby waterbodies by name, if available
✓	Identify site outlet and/or connection to municipal storm drain system
✓	Identify locations of all source control structural and treatment BMPs on the Map. Indicate the BMP location using the BMP number.
✓	Differentiate/identify pervious and impervious surfaces, buildings, activity areas, etc.
✓	Identify areas of potential soil erosion

## **SECTION 8**

## Section 8 Stormwater BMP Maintenance

The City does not accept stormwater structural BMPs as meeting the WQMP requirements standard, unless an Operations and Maintenance (O&M) Plan is prepared and a mechanism is in place that will ensure ongoing long-term maintenance of all structural and non-structural BMPs.

The WQMP certification Statement requires that the property owner implement the provisions of this WQMP, which includes on-going BMP maintenance as specified in this WQMP. The property owner is responsible to ensure that this plan is carried out and amended as appropriate to reflect up-to-date conditions on the site consistent with the current City of Lake Forest Urban Runoff Management Program and the intent of the NPDES/MS4 Permit for Waste Discharge Requirements as authorized by the State and EPA. Once the property owner transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

The Owner of the project will implement the following maintenance mechanism to ensure ongoing long-term maintenance of all structural and non-structural BMPs.

**Project proponent agreement to maintain stormwater BMPs:** The City may enter into a contract with the project proponent obliging the project proponent to maintain, repair and replace the stormwater BMP as necessary into perpetuity. Security or a funding mechanism with a “no sunset” clause may be required. Madison Investors shall be the responsible party until such time as the HOA is established. The agreement shall be executed prior to recordation of final map.

### 8.1 Operation and Maintenance (O&M) Plan

A separate and complementary document, the O&M Plan describes the designated responsible party for implementation of this WQMP, including operation and maintenance of all the stormwater BMP(s), conducting the training/educational program and duties, the maintenance frequency, routine service schedule, specific maintenance activities, copies of resource agency permits, and any other necessary activities. Maintenance agreements shall require the inspection and servicing of all structural BMPs per manufacturer or engineering specifications, or at a minimum of annually.

#### 8.1.1 Responsible Party

Until the HOA contact is identified, the responsible party for implementation of this WQMP is:

Mr. Gary Emsiek  
Madison Investors  
23201 Mill Creek Drive, Suite 130  
Laguna Hills, CA 92653  
Phone: (949) 472-6884

### 8.1.2 Operation and Maintenance Requirements

BMP Name and BMP Implementation, Maintenance, and Inspection Responsibility	Implementation, Inspection and Maintenance Procedures and Requirements	Frequency
<p><b>N1. Education for Property Owners, Tenants and Occupants</b>            HOA</p>	<p>The HOA will insure that all homeowners will be given a copy of the recorded CC&amp;R's which will contain a section outlining the environmental awareness education materials at the close of escrow. The HOA shall establish requirements for the implementation of a community awareness program that informs home buyers of the impacts of dumping oil, paints, solvents or other potentially harmful chemicals into the storm drain; the proper use and management of fertilizers, pesticides and herbicides in home landscaping and gardening practices; the impacts of littering and improper watering. Environmental awareness education materials, including, but not limited to those included in Section VII of this WQMP, shall be provided to all members of the HOA and at least annually thereafter by the HOA, after the first sale of units.</p>	<p>Information to be initially provided to Homeowners upon close of escrow and annually thereafter via website or community newsletters.</p> <p>Other agencies providing services to the homeowners (Irvine Ranch Water District, and the County of Orange) provide educational materials to the HOA upon request for distribution to residents by the HOA. See these websites for further information:</p> <p><a href="http://www.irwd.com/">http://www.irwd.com/</a></p> <p><a href="http://www.ocwatersheds.com/">http://www.ocwatersheds.com/</a></p>
<p><b>N2. Activity Restriction</b>            HOA</p>	<p>Within the CC&amp;R's, language shall be included to identify surface water quality protection required of the HOA. Surface water quality activities shall also be conducted in conformance with the Water Quality Management Plan as it relates to the handling and disposal of contaminants. The following sample excerpt from a Declaration of CC&amp;R's provides additional direction for controlling activities that may affect the environment of the project and/or surrounding areas.</p>	<p>Same as above</p>

<b>BMP Name and BMP Implementation, Maintenance, and Inspection Responsibility</b>	<b>Implementation, Inspection and Maintenance Procedures and Requirements</b>	<b>Frequency</b>
<b>N3. Common Area Landscape Management</b> HOA	Landscape management programs will be designed and established by the developer. The HOA will own and maintain all project common landscaped areas. These programs will include how to mitigate the potential dangers of fertilizer and pesticide usage through the incorporation of an Integrated Pest Management Program (IPM). Ongoing maintenance will be consistent with the City of Lake Forest Municipal Code Chapter § 9.146.110 (Landscaping) and Chapter 15.14 (Stormwater Quality Management Ordinance).	Monthly during regular maintenance.
<b>N4. BMP Maintenance</b> HOA	As indicated in (N2) above, the CC&R's shall identify the HOA as being responsible for implementation of each applicable non-structural BMP as well as scheduling inspection and maintenance cleaning of all applicable structural BMP facilities. The HOA, through its landscape maintenance contractor, will be responsible for inspection and maintenance activities in landscape areas. Debris and other water pollutants will be controlled, contained and disposed of in a proper manner by the maintenance contractor.	Per the tables listed in this Operation and Maintenance Matrix.
<b>N11. Common Area Litter Control</b> HOA	Weekly sweeping and trash pick up as necessary within all project areas and common landscape areas. Daily inspection of trash receptacles to ensure that lids are closed and pick up any excess trash on the ground, noting trash disposal violations by homeowners and reporting the violations to the HOA for investigation.	Daily inspection and weekly sweeping and clean-up as needed
<b>N12. Employee Training</b> HOA	Post construction, an employee training/education program will be established as it would apply to future employees, contractors of the HOA, and HOA volunteers to inform and train employees engaged in maintenance activities regarding the impact of dumping oil, paints, solvents or other potentially harmful chemicals into storm drain; the proper use of fertilizers and pesticides in landscaping maintenance practices; and the impacts of littering and improper water disposal.	At first hire and annually thereafter for HOA personnel and employees, including but not limited to the educational materials contained in the approved Water Quality Management Plan.

<b>BMP Name and BMP Implementation, Maintenance, and Inspection Responsibility</b>	<b>Implementation, Inspection and Maintenance Procedures and Requirements</b>	<b>Frequency</b>
<b>N14. Common Area Catch Basin Inspection</b> HOA	Post construction, catch basins will be owned, inspected and maintained by the HOA. Per project Conditions of Approval these activities will be done at a minimum on a yearly basis, and prior to the storm season, no later than October 1 <sup>st</sup> of each year.	At a minimum, basins will be inspected and cleaned October 1 <sup>st</sup> of each year, prior to "first flush" storm, and as necessary after large storm events to clear inlets of trash, debris and silt.
<b>N15. Street Sweeping Private Streets and Parking Lots</b> HOA	During construction and prior to the acceptance of the project streets for maintenance by the HOA, the developer will have all streets and any parking areas vacuum swept on a weekly basis. After acceptance of all streets for maintenance as described herein, above, the HOA shall be responsible for street sweeping.	Streets will be vacuum swept on a weekly basis. After HOA acceptance, street sweeping will occur at a minimum on a monthly basis, in accordance with CASQA SC-70.
<b>Provide Storm Drain System Stenciling and Signage</b> HOA	As a part of the final civil engineering drawings it will be required by the contractor to label all of the project's catch basins where applicable in paved areas, with catch basin markers which state: "No Dumping - Drains to Ocean, No Descargue Basura". This will be done in a location that can be clearly seen by all and will be routinely inspected and re-labeled, as necessary. Thereafter, the owner/operator shall routinely inspect and re-label the catch basins, as necessary.	Catch basin labels will be inspected annually and relabeled as necessary to maintain legibility.
<b>Design and Construct Trash and Waste Storage Areas to Reduce Pollutant Introduction</b> HOA	Residents of the project will store trash covered trash containers in individual garage spaces. Trash will be removed by the local private solid waste management contractor on a weekly basis for proper disposal of the trash to landfill; with recyclable materials and greenwastes to be processed offsite.	The City's management franchisee will remove trash, green wastes and recyclables on a weekly basis, or more frequently as necessary, for proper disposal to a trash facility offsite. Further information about trash pickup in the City of Lake Forest can be found at this site: <a href="http://www.lakeforestca.gov/services/residents/trash_and_waste_hauling/default.asp">http://www.lakeforestca.gov/services/residents/trash_and_waste_hauling/default.asp</a>

BMP Name and BMP Implementation, Maintenance, and Inspection Responsibility	Implementation, Inspection and Maintenance Procedures and Requirements	Frequency
<p><b>Use Efficient Irrigation Systems &amp; Landscape Design</b>            HOA</p>	<p>The project has incorporated Site Design and Landscape Design methodologies such as minimizing impervious footprint, incorporation of landscaped buffers and use of native and drought tolerant species as previously detailed in section 6.1 of this report.</p> <p>Efficient irrigation practices will be consistent with the City of Lake Forest Municipal Code Chapter § 9.144.060.2 (Landscaping) and Chapter 15.10 (Stormwater and Urban Runoff Pollution Controls). Irrigation systems shall be automatically controlled and designed, installed, and maintained so as to minimize overspray and runoff onto streets, sidewalks, driveways, structures, windows, walls, and fences.</p>	<p>Inspected once a week, in conjunction with maintenance operations. Verify that runoff minimizing landscape design continues to function by checking that water sensors are functioning properly, that irrigation heads are adjusted properly to eliminate overspray to hardscape areas, and to verify that irrigation timing and cycle lengths are adjusted in accordance with water demands, given time of year, weather and day or night time temperatures.</p>
<p><b>Hillside Landscaping</b>            HOA</p>	<p>All hillside areas will have at least 70% vegetative cover with erosion-resistant mulch and be inspected regularly for erosion. If erosion problems become evident, inspect for all sources of excess water. Repair or redirect the problem flows. Re-grade any rills &amp; gullies and clean paved areas where necessary. Stabilize these areas with mulch and additional deep-rooted plantings. Landscaping will consist of "California-friendly" deep-rooted, native drought-tolerant plantings. Landscape pests and insects will be controlled through an Integrated Pest Management (IPM) program implemented by the Landscape Maintenance firm contracted by the HOA.</p>	<p>Inspected once a week in conjunction with maintenance operations and prior to finalizing any replanting schemes. Verify that plants continue to be grouped according to similar water requirements in order to hillside erosion and reduce excess irrigation runoff.</p>
<p><b>Treatment Control BMP # 1</b>  <i>MP-52 Katchall Catch Basin Insert.</i></p> <p>Subsequent Maintenance Entity: HOA</p>	<p>Filters will be inspected for debris blockage and wear and replaced as necessary.</p>	<p>Basin filters will be inspected biannually; prior to the start and end of the rainy season (October 1<sup>st</sup> - April 30<sup>th</sup>) and after each significant rainfall event. Inlets will be cleaned and media will be replaced on an "as-needed" basis.</p>

BMP Name and BMP Implementation, Maintenance, and Inspection Responsibility	Implementation, Inspection and Maintenance Procedures and Requirements	Frequency
<p><b>Modular Wetland System – Linear</b>  <i>TC-32 and TC-60</i></p> <p>Subsequent            Maintenance Entity: HOA</p>	<p>1. Clean Bio Clean® Catch Basin Filter – Modular Wetland Systems, Inc. recommends the catch basin filter be inspected and cleaned a minimum of once every six months and replacement of hydrocarbon booms once a year. The procedure is easily done with the use of any standard vacuum truck. This procedure takes approximately 15 minutes.</p> <p>1. Remove grate or manhole to gain access to catch basin filter insert. Remove the deflector shield (grate type only) with the hydrocarbon boom attached. Where possible the maintenance should be performed from the ground surface. Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.</p> <p>2. Remove all trash, debris, organics, and sediments collected by the inlet filter insert. Removal of the trash and debris can be done manually or with the use of a vacuum truck. The hose of the vacuum truck will not damage the screen of the filter.</p> <p>3. Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils it should be replaced. Attach new boom to basket with plastic ties through pre-drilled holes in basket. Place the deflector shield (grate type only) back into the filter.</p> <p>4. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.</p> <p>5. The hydrocarbon boom may be classified as hazardous material and will have to be picked up and disposed of as hazardous waste. Hazardous material can only be handled by a certified hazardous waste trained person (minimum 24- hour hazwoper).</p>	<p>Clean BioClean Catch Basin Filter – average maintenance interval is 3 to 6 months.</p> <p>Clean Separation (Sediment) Chamber – average maintenance interval is 6 to 18 months.</p> <p>Replace Cartridge Filter Media (BioMedia GREEN) - average maintenance interval is 6 to 12 months.</p> <p>Replace Drain Down Filter Media (BioMedia GREEN) – average maintenance interval is 6 to 12 months.</p> <p>Trim Vegetations – average maintenance interval is 3 to 6 months.</p> <p>Evaluate Wetland Media Flow Hydraulic Conductivity – average inspection interval is once per year.</p> <p>Wetland Media Replacement – average maintenance interval is 5 to 20 years.</p> <p>Reference manufacturer guidelines for additional information.</p>

	<p>2. Clean Separation (sediment) Chamber – Modular Wetland Systems, Inc. recommends the separation chamber be inspected and cleaned a minimum of once a year. The procedure is easily done with the use of any standard vacuum truck. This procedure takes approximately 30 minutes.</p> <ol style="list-style-type: none"> <li>1. Remove grate or manhole to gain access to the catch basin filter.</li> <li>2. Remove catch basin filter. Where possible the maintenance should be performed from the ground surface. Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.</li> <li>3. With a pressure washer spray down pollutants accumulated on walls and cartridge filters.</li> <li>4. Vacuum out separation chamber and remove all accumulated debris and sediments.</li> <li>5. Replace catch basin filter, replace grate or manhole cover.</li> <li>6. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.</li> </ol> <p>3. Replace Cartridge Filter Media (BioMediaGREEN™) – Modular Wetland Systems, Inc. recommends the cartridge filters media be inspected and cleaned a minimum of once a year. The procedure will require prior maintenance of separation chamber. Replacement of media takes approximately 45 minutes.</p> <ol style="list-style-type: none"> <li>1. Remove grate or manhole to gain access to the catch basin filter.</li> <li>2. Remove catch basin filter. Where possible the maintenance should be performed from the ground surface. Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.</li> <li>3. Enter separation chamber.</li> </ol>	
--	---	--

	<p>4. Unscrew the two ½" diameter bolts holding the lid on each cartridge filter and remove lid and place outside of unit.</p> <p>5. Remove each of the 14 BioMediaGREEN filter blocks in each cartridge and remove from chamber for disposal.</p> <p>6. Spray down the outside and inside of the cartridge filter to remove any accumulated sediments.</p> <p>7. Replace with new BioMediaGREEN filter blocks insuring the blocks are properly lined up and seated in the bottom.</p> <p>8. Replace the lid and tighten down bolts.</p> <p>9. Replace catch basin filter, replace grate or manhole cover.</p> <p>10. Transport all debris, trash, organics, spent media and sediments to approved facility for disposal in accordance with local and state requirements.</p> <p>4. Replace Drain Down Filter Media (BioMediaGREEN™) – Modular Wetland Systems, Inc. recommends the drain down filter be inspected and maintained a minimum of once a year. Replacement of media takes approximately 5 minutes.</p> <p>1. Open hatch of discharge chamber</p> <p>2. Enter chamber, unlatch drain down filter cover.</p> <p>3. Remove BioMediaGREEN filter block</p> <p>4. Replace with new block, replace and latch cover.</p> <p>5. Exit chamber, close and lock down the hatch.</p> <p>6. Transport spent media to approved facility for disposal in accordance with local and state requirements.</p> <p>5. Trim Vegetations – Modular Wetland Systems, Inc. recommends the plants/vegetation be inspected and maintained a minimum of once a year. It is also recommended that the plants receive the same care as other landscaped areas. Note: No fertilizer is to be used on this area. Trimming of vegetation takes approximately 15 minutes.</p>	
--	---	--

	<p>6. Evaluate Wetland Media Flow Hydraulic Conductivity – Modular Wetland Systems, Inc. recommends system flow be inspected and observed a minimum of once a year. This needs to be done during a rain event. Inspection and Observation takes approximately 5 minutes.</p> <ol style="list-style-type: none"><li>1. Open hatch of discharge chamber</li><li>2. Observe the level of flow from the bottom valve or orifice plate.</li><li>3. If flow is steady and high the system is operating normally.</li><li>4. If little or no flow is observed exiting the valve possible maintenance to the biofiltration wetland chamber may be needed. Contact Modular Wetlands for further assistance.</li><li>5. Exit chamber, close and lock down the hatch.</li></ol> <p>7. Wetland Media Replacement – Modular Wetland Systems, Inc. recommends the wetland media be replaced a minimum of one every 20 years. Inspection takes approximately 15 minutes. Replacement of rock media takes approximately 6 hours and requires a vacuum truck.</p> <ol style="list-style-type: none"><li>1. Remove plants from the wetland chamber.</li><li>2. Use a vacuum truck or shovel to remove all wetland media.</li><li>3. Spray down the walls and floor of the chamber and vacuum out any accumulated pollutants.</li><li>4. Spray down perforated piping and netting of flow matrix and the inflow and outflow end to remove any accumulated pollutants.</li><li>5. Vacuum out any standing water from the media removal and insure the chamber is cleaning.</li><li>6. Use a small backhoe to fill chamber with new media. Call Modular Wetland Systems, Inc. for media delivery information.</li></ol>	
--	--	--

	<p>7. Install BioMediaGREEN filter blocks across over the entire filter bed. Fill with media until 9" from top. The install filter blocks which are 3" thick. Fill the top 6" inches with wetland media.</p> <p>8. Plant new vegetation in the same configuration and quantity as old vegetation. Dig down until the BioMediaGREEN is exposed. Cut out a small circle of the BioMediaGREEN. Remove plant from container including soil ball and place in the whole cut out of the BioMediaGREEN. Cover up with wetland media.</p> <p>9. Spray down the plants and media with water to saturate.</p> <p>10. Continue supplemental irrigation (spray or drip) for at least 90 days.</p> <p>7. Other Maintenance Notes –</p> <p>1. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanism. .</p> <p>2. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.</p> <p>3. Any person performing maintenance activities must have completed a minimum of OSHA 24-hour hazardous waste worker (hazwoper) training.</p> <p>4. Remove access manhole lid or grate to gain access to filter screens and sediment chambers. Where possible the maintenance should be performed from the ground surface. Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.</p>	
--	--	--

	<p>5. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.</p> <p>6. The hydrocarbon boom is classified as hazardous material and will have to be picked up and disposed of as hazardous waste. Hazardous material can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).</p>	
--	--	--

### **8.1.3 Required Permits**

This section must list any permits required for the implementation, operation, and maintenance of the BMPs. Possible examples are:

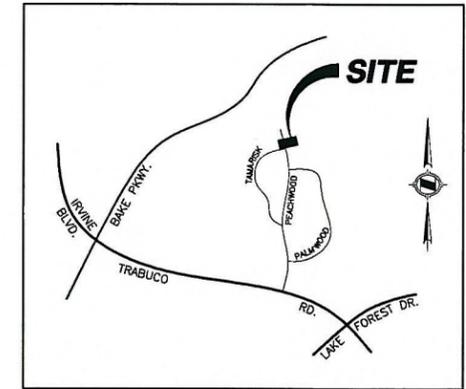
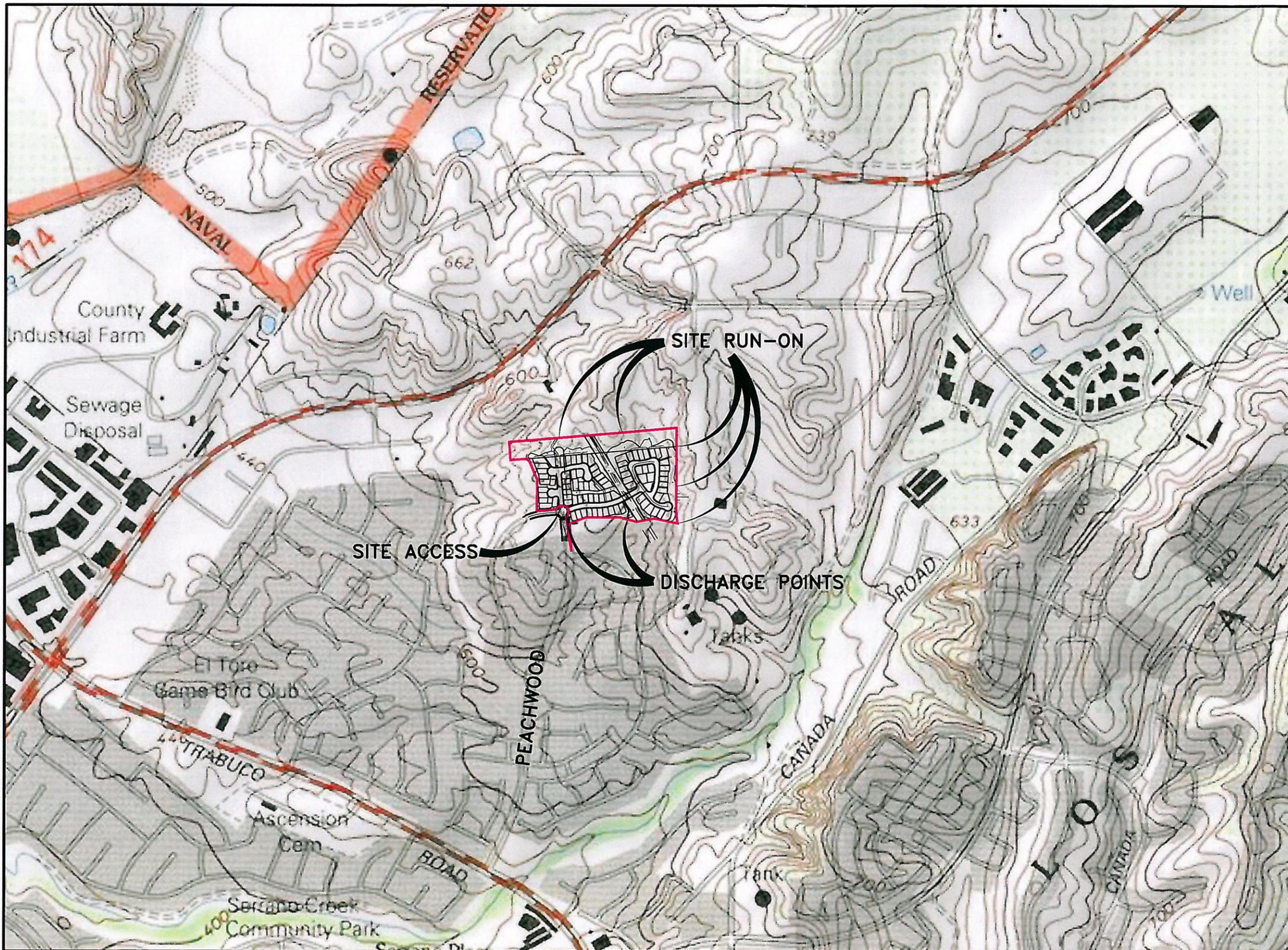
- Grading Permit for Tract 15594, Serrano Highlands
- Storm Drain Permit for Tract 15594, Serrano Highlands

### **Forms to Record BMP Implementation, Maintenance, and Inspection**

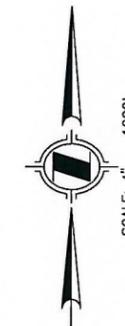
The form that will be used to record implementation, maintenance, and inspection of BMPs is attached.







VICINITY MAP  
NOT TO SCALE



SCALE: 1" = 1000'

PREPARED BY:

**HUNSAKER & ASSOCIATES**  
IRVINE, INC.  
PLANNING ■ ENGINEERING ■ SURVEYING  
Three Hughes • Irvine, CA 92618 • PH: (949) 583-1010 • FX: (949) 583-0759

PREPARED FOR:

**WESTBAY TRUST AND MADISON INVESTORS  
LP AS TENANTS IN COMMON**  
25108 MARGUERITE PARKWAY, SUITE A-132  
MISSION VIEJO, CA 92691  
(949) 888-8963

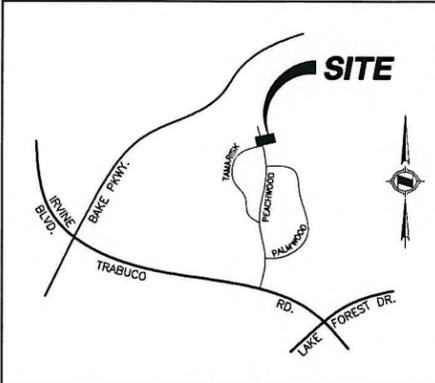
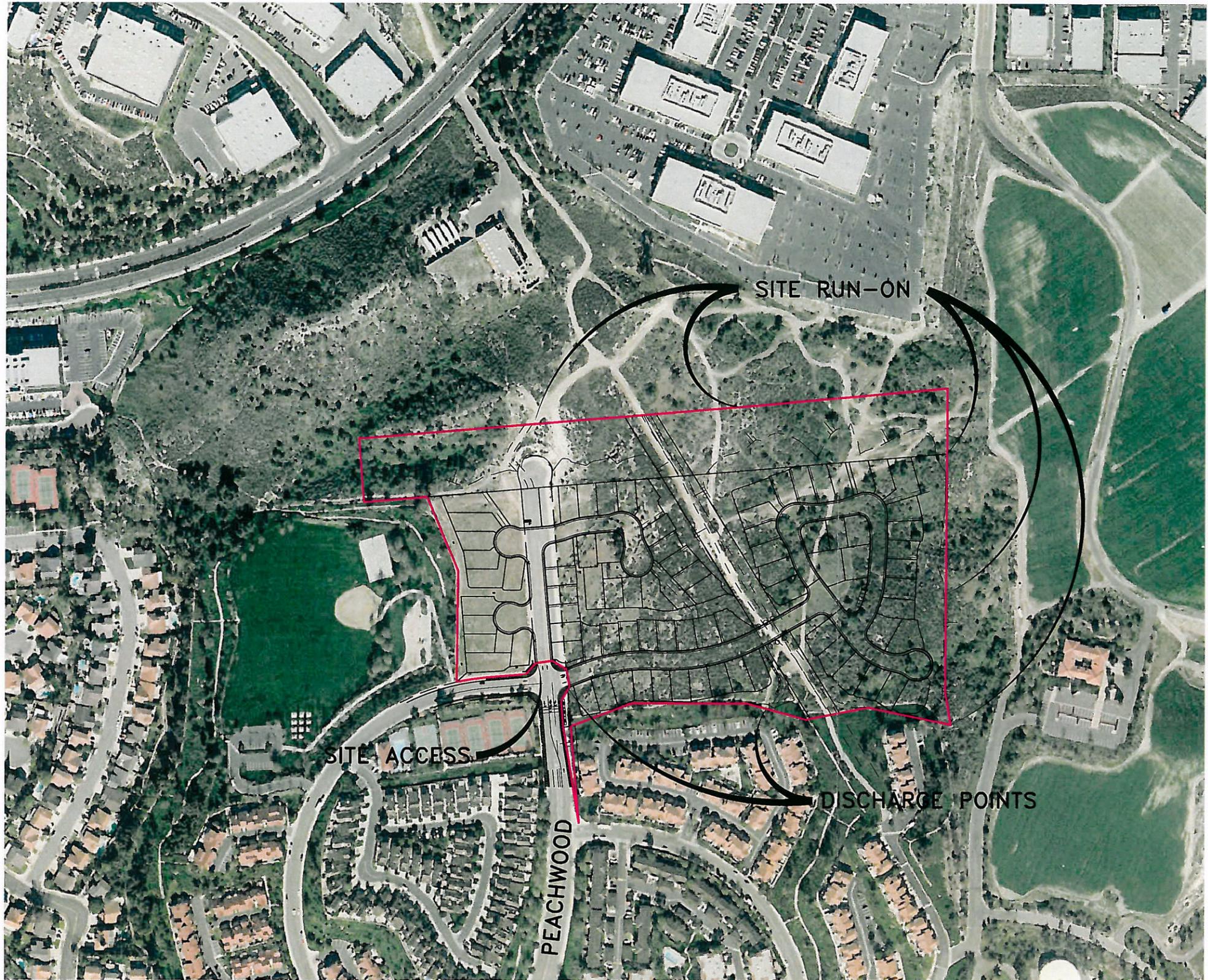
DATE PREPARED:

6/24/11

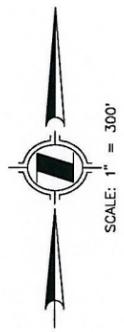
WO # 0245-9X

SERRANO HIGHLANDS  
TRACT 15594  
LAKE FOREST, CA

WQMP  
EXHIBIT B



VICINITY MAP  
NOT TO SCALE



PREPARED BY:

**HUNSAKER & ASSOCIATES**  
IRVINE, INC.  
PLANNING ■ ENGINEERING ■ SURVEYING  
Three Hughes ■ Irvine, CA 92618 ■ PH: (949) 583-1010 ■ FX: (949) 583-0759

PREPARED FOR:

**WESTBAY TRUST AND MADISON INVESTORS**  
**LP AS TENANTS IN COMMON**  
25108 MARGUERITE PARKWAY, SUITE A-132  
MISSION VIEJO, CA 92691  
(949) 888-8963

DATE PREPARED:  
6/24/11

WO # 0245-9X

SERRANO HIGHLANDS  
TRACT 15594  
LAKE FOREST, CA

WQMP  
EXHIBIT C



## Appendix A EDUCATIONAL MATERIALS

**The following is a selection of regionally-specific Educational Materials for Homeowners, visitors, Contractors and HOA employees that addresses surface water quality issues as well as related environmental issues and the local laws that address these topics. For additional information please visit the City's Water Quality information page:**

**[http://www.city-lakeforest.com/departments/public\\_works/water\\_quality/](http://www.city-lakeforest.com/departments/public_works/water_quality/)**

1. The Ocean Begins at Your Front Door
2. Ten Ways that You Will Save the Most
3. Your Home. Your Community. Your Environment
4. Household Tips to Help Ocean Pollution
5. After the Storm
6. Blueprint for a Clean Ocean
7. Information on What You and Your Community Can Do to Use Water More Efficiently
8. Sewage Spill Reference Guide
9. Water Quality Guidelines for Landscaping and Gardening
10. Healthy Lawn Healthy Environment
11. EPA Citizen's Guide to Pest Control and Pesticide Safety
12. Integrated Waste Management Collection Centers
13. Waste Oil Collection Centers
14. Using Pest Control Products
15. County of Orange Management Guidelines for the Use of Fertilizers and Pesticides
16. County of Orange Water Quality Ordinance
17. City of Lake Forest Municipal Code Chapter 15.14 Stormwater Quality Management Ordinance
18. City of Lake Forest Municipal Code Section 8.30.149A Article XIII. Erosion Control
19. City of Lake Forest Pollution Prevention

1. The Ocean begins at your front door.

## For More Information

California Environmental Protection Agency  
www.cal EPA.ca.gov

- Air Resources Board

www.arb.ca.gov

- Department of Pesticide Regulation

www.cdpr.ca.gov

- Department of Toxic Substances Control

www.dtscc.ca.gov

- Integrated Waste Management Board

www.iwmb.ca.gov

- Office of Environmental Health Hazard Assessment

www.ohha.ca.gov

- State Water Resources Control Board

www.waterboards.ca.gov

Earth 911 - community-specific environmental information  
1-800-cleanup or visit [www.1800cleanup.org](http://www.1800cleanup.org)

Health Care Agency's Ocean and Bay Water Closure  
and Posting Hotline

714-433-6400 or visit [www.ocbeachinfo.com](http://www.ocbeachinfo.com)

Integrated Waste Management/Dept. of Orange County  
information on household hazardous waste collection  
centers, recycling centers and solid waste collection

714-834-6752 or visit [www.oclandfills.com](http://www.oclandfills.com)

O.C. Agriculture Commissioner

714-447-7100 or visit [www.ocagcomm.com](http://www.ocagcomm.com)

Stormwater Best Management Practice Handbook

Visit [www.eabmhandbooks.com](http://www.eabmhandbooks.com)

UC Master Gardener Hotline

714-708-1646 or visit [www.uccemg.org](http://www.uccemg.org)

The Orange County Stormwater Program has created and  
moderates an electronic mailing list to facilitate communications,  
take questions and exchange ideas among its users about issues  
and topics related to stormwater and urban runoff and the  
implementation of program elements. To join the list, please  
send an email to [ocstormwaterinfo-join@list.ocwaterheds.com](mailto:ocstormwaterinfo-join@list.ocwaterheds.com)

## Orange County Stormwater Program

Aliso Viejo . . . . .	(949) 425-2535
Anaheim Public Works Operations . . . . .	(714) 765-0860
Brea Engineering . . . . .	(714) 990-7666
Buena Park Public Works . . . . .	(714) 562-3655
Costa Mesa Public Services . . . . .	(714) 754-5323
Cypress Public Works . . . . .	(714) 229-0740
Dana Point Public Works . . . . .	(949) 248-3584
Fountain Valley Public Works . . . . .	(714) 593-4441
Fullerton Engineering Dept. . . . .	(714) 738-6853
Garden Grove Public Works . . . . .	(714) 741-5956
Huntington Beach Public Works . . . . .	(714) 536-3431
Irvine Public Works . . . . .	(949) 724-0315
La Habra Public Services . . . . .	(562) 905-9792
La Palma Public Works . . . . .	(714) 690-3310
Laguna Beach Water Quality . . . . .	(949) 497-0378
Laguna Hills Public Service . . . . .	(949) 707-2650
Laguna Niguel Public Works . . . . .	(949) 362-4337
Laguna Woods Public Works . . . . .	(949) 639-0500
Lake Forest Public Works . . . . .	(949) 461-3480
Los Alamitos Community Dev. . . . .	(562) 431-3538
Mission Viejo Public Works . . . . .	(949) 470-3056
Newport Beach, Code & Water Quality Enforcement . . . . .	(949) 644-3215
Orange Public Works . . . . .	(714) 532-6480
Placencia Public Works . . . . .	(714) 993-3245
Rancho Santa Margarita . . . . .	(949) 635-1800
San Clemente Environmental Programs . . . . .	(949) 361-6143
San Juan Capistrano Engineering . . . . .	(949) 234-4413
Santa Ana Public Works . . . . .	(714) 647-3380
Seal Beach Engineering . . . . .	(562) 431-2527 x317
Stanton Public Works . . . . .	(714) 379-3222 x204
Tustin Public Works Engineering . . . . .	(714) 573-3150
Villa Park Engineering . . . . .	(714) 998-1500
Westminster Public Works Engineering . . . . .	(714) 898-3311 x446
Yorba Linda Engineering . . . . .	(714) 961-7138
Orange County Stormwater Program . . . . .	(714) 567-6363

Orange County 24-Hour  
Water Pollution Problem Reporting Hotline  
(714)-567-6363

On-line Water Pollution Problem Reporting form  
[www.ocwatersheds.com](http://www.ocwatersheds.com)



Printed on Recycled Paper

# The Ocean Begins at Your Front Door



*Even if you live miles from the Pacific Ocean, you may be unknowingly polluting it.*

### **Did You Know?**

- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact the largest source of water pollution comes from city streets, neighborhoods, construction sites, and parking lots. This type of pollution is sometimes called "non-point source" pollution.
- There are two types of non-point source pollution: stormwater and urban runoff pollution.
- Stormwater runoff refers to runoff resulting from rainfall. It is very noticeable during heavy rainstorms when large volumes of water drain off the urban landscape picking up pollutants along the way.
- Urban runoff can happen anytime of the year when excessive water use from irrigation, vehicle washing and other sources carries trash, lawn clippings and other urban pollutants into storm drains.

### **Where Does It Go?**

- Anything we use outside homes, vehicles and businesses – like motor oil, paint, pesticides, fertilizers, and cleaners – can be blown or washed into the storm drains.
- A little water from a garden hose or rain can also send materials into the storm drains.
- Storm drains are separate from our sanitary sewer systems; unlike water in sanitary sewers (from sinks or toilets) water in the storm drains is not treated before entering our waterways.

### **Sources of Non-Point Source Pollution**

- Automotive leaks and spills.
- Improper disposal of used oil and other engine fluids.
- Metals found in vehicle exhaust, weathered paint, rust, metal plating, and tires.
- Pesticides and fertilizers from lawns, gardens and farms.
- Improper disposal of cleaners, paint and paint removers.
- Soil erosion and dust debris from landscape and construction activities.
- Litter, lawn clippings, animal waste, and other organic matter.
- Oil stains on parking lots and paved surfaces.

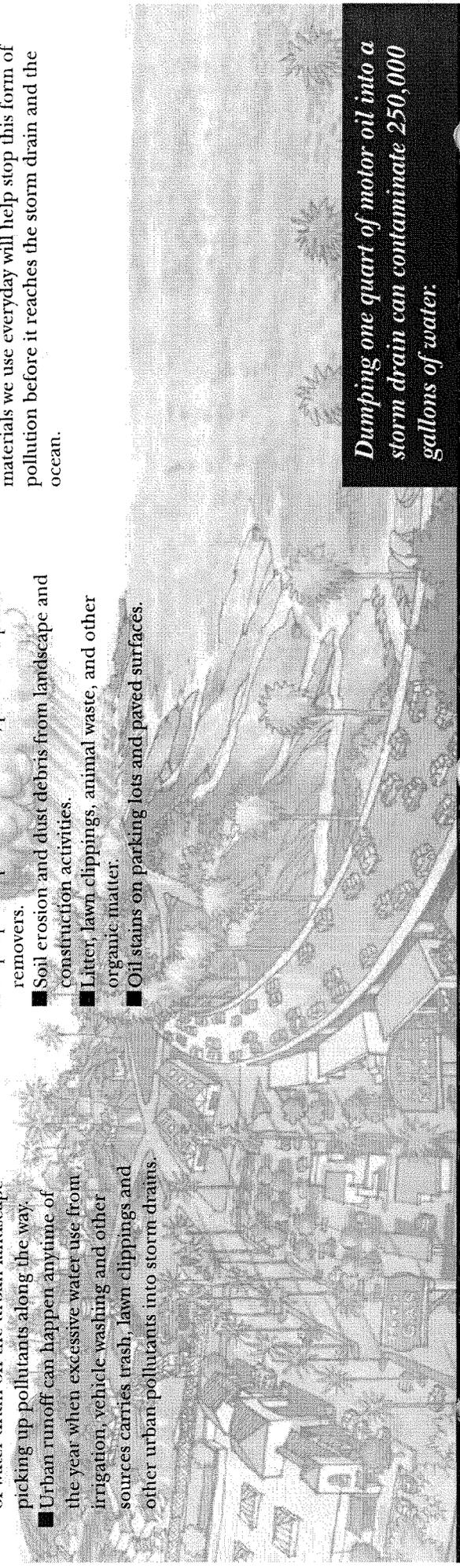
### **The Effect on the Ocean**

Non-point source pollution can have a serious impact on water quality in Orange County. Pollutants from the storm drain system can harm marine life as well as coastal and wetland habitats. They can also degrade recreation areas such as beaches, harbors and bays.

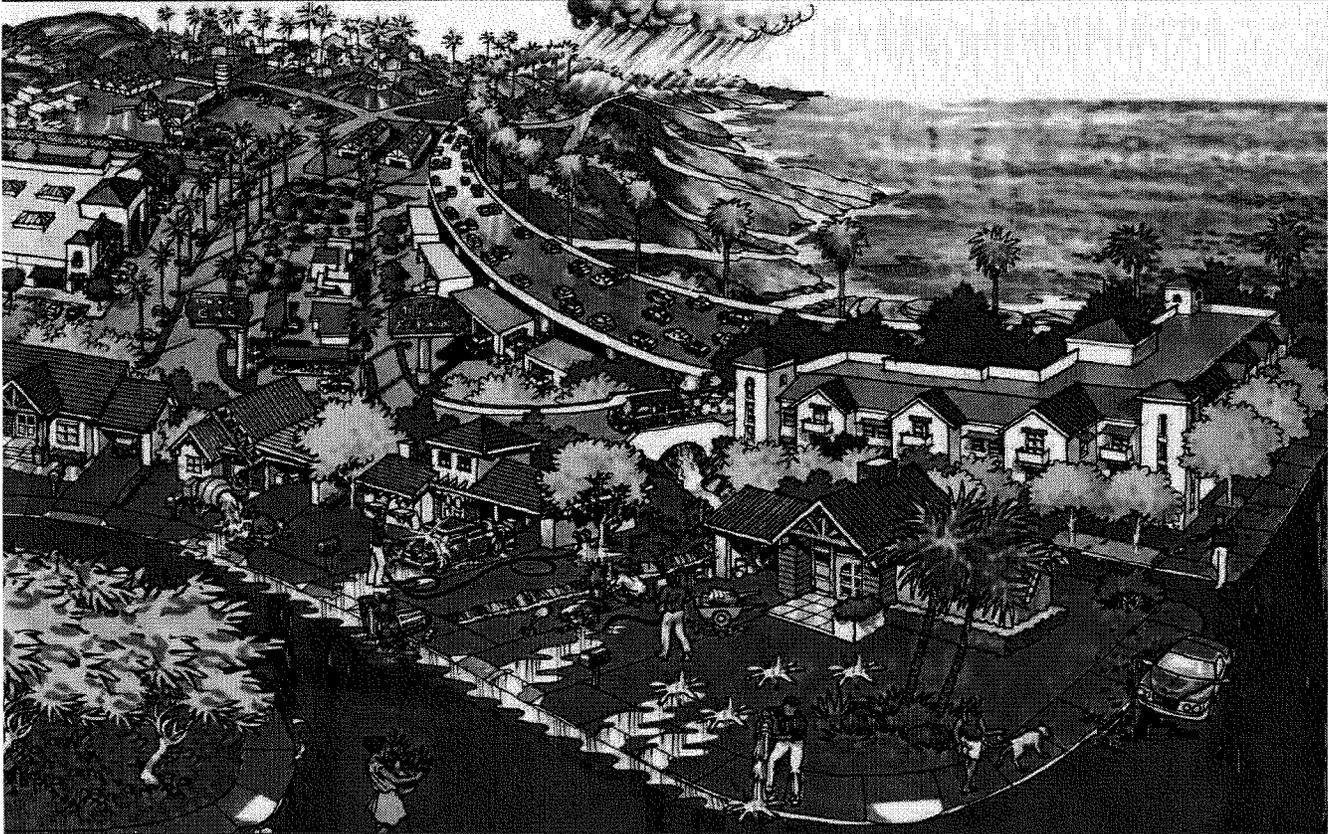
Stormwater quality management programs have been developed by the Orange County Stormwater Program under National Pollutant Discharge Elimination System (NPDES) permits. The program educates and encourages the public to protect water quality, monitor runoff in the storm drain system, manage NPDES permit process for municipalities, investigate illegal disposals, and maintain storm drains.

The support of Orange County residents, businesses and industries is needed to improve water quality and reduce the threat of stormwater and urban runoff pollution. Proper use and disposal of materials we use everyday will help stop this form of pollution before it reaches the storm drain and the ocean.

*Dumping one quart of motor oil into a storm drain can contaminate 250,000 gallons of water.*



# The Ocean Begins at Your Front Door



*Never allow pollutants to enter the street, gutter or storm drain!*

Follow these simple steps to help reduce water pollution:

## Household Activities

- Do not rinse spills with water. Use dry cleanup methods such as applying cat litter or another absorbent material, sweep and dispose of in trash. Take items such as used or excess batteries, oven cleaners, automotive fluids, painting products, and cathode ray tubes, like TVs and computer monitors, to a Household Hazardous Waste collection center.
- For a household hazardous waste collection center near you call (714) 834-6752 or visit [www.oilandfills.com](http://www.oilandfills.com).
- Do not hose down your driveway, sidewalk or patio to the street, gutter or storm drain. Sweep up debris and dispose of in trash.

## Automotive

- Take your vehicle to a commercial car wash whenever possible. If you wash your vehicle at home, choose soaps, cleaners, or detergents labeled non-toxic, phosphate free or biodegradable. Vegetable and citrus-based products are typically safest for the environment.
- Do not allow washwater from vehicle washing into the street, gutter or storm drain. Excess washwater should be disposed of in the sanitary sewer (through a sink or toilet) or onto an absorbent surface like your lawn.
- Monitor vehicle for leaks and place a pan under leaks. Keep your vehicles well maintained to stop and prevent leaks.
- Never pour oil or antifreeze in the street, gutter or storm drain. Recycle these substances at a service station, a waste oil collection center or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit [www.1800cleanup.org](http://www.1800cleanup.org).

## Pool Maintenance

- Pool and spa water must be dechlorinated and be free of excess acid, alkali or color to be allowed in the street, gutter or storm drain.
- Whenever possible, drain dechlorinated pool and spa water directly into the sanitary sewer but only when it is not raining.
- Some cities may have ordinances that do not allow pool water to be disposed into the storm drain. Check with your city.

## Landscape and Gardening

- Do not over-water. Water your lawn and garden by hand to control the amount of water you use or set irrigation systems to reflect seasonal water needs. If water flows off your yard onto your driveway or sidewalk, your system is over-watering. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead dispose of waste by composting, hauling it to a permitted landfill, or as green waste through your city's recycling program.
- Follow directions on pesticides and fertilizer, (measure, do not estimate amounts) and do not use if rain is predicted with 48 hours.
- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. For locations and hours of Household Hazardous Waste Collection Centers call 714-834-6752 or visit [www.oilandfills.com](http://www.oilandfills.com).

## Trash

- Place trash and litter that cannot be recycled in securely covered trash cans.
- Whenever possible, buy recycled products.
- Remember: Reduce, Reuse, Recycle

## Pet Care

- Always pick up after your pet. Flush waste down the toilet or dispose in the trash. Pet waste, if left outdoors, can wash into the street, gutter or storm drain.
- If possible, bathe your pets indoors. If you must bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from entering the street, gutter or storm drain.
- Follow directions for use of pet care products and dispose of any unused products at a Household Hazardous Waste Collection Center.

## Common Pollutants

### Home Maintenance

- Detergents, cleaners and solvents
- Oil and latex paint
- Swimming pool chemicals
- Outdoor trash and litter

### Lawn and Garden

- Pet and animal waste
- Pesticides
- Clippings, leaves and soil
- Fertilizer

### Automobile

- Oil and grease
- Radiator fluids and antifreeze
- Cleaning chemicals
- Brake pad dust

## 2. Ten Ways that you Will Save the Most

## Ten ways that will save the most:

1. Water your lawn only when it needs it. Step on your grass. If it springs back, when you lift your foot, it doesn't need water. So set your sprinklers for more days in between watering. **Saves 750-1,500 gallons** per month. Better yet, especially in times of drought, water with a hose.

2. Fix leaky faucets and plumbing joints. **Saves 20 gallons** per day for every leak stopped.

3. Don't run the hose while washing your car. Use a bucket of water and a quick hose rinse at the end. **Saves 150 gallons** each time. For a two-car family that's **up to 1,200 gallons** a month.

4. Install water-saving shower heads or flow restrictors. **Saves 500 to 800 gallons** per month.

5. Run only full loads in the washing machine and dishwasher. **Saves 300 to 800 gallons** per month.

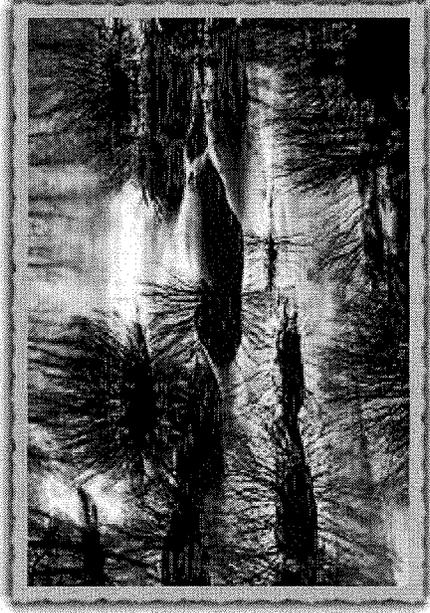
6. Shorten your showers. Even a one or two minute reduction can **save up to 700 gallons** per month.

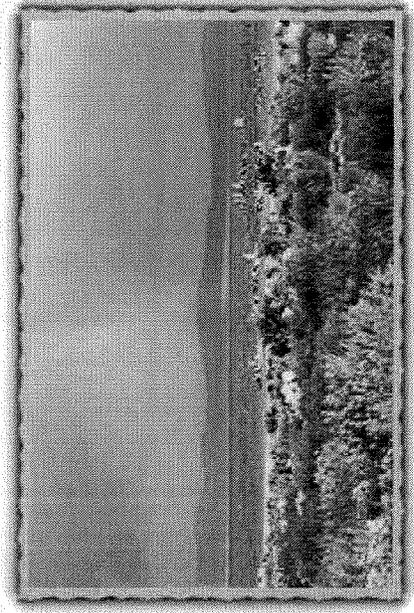
7. Use a broom instead of a hose to clean driveways and sidewalks. **Saves 150 gallons** or more each time. At once a week, that's **more than 600 gallons** a month.

8. Don't use your toilet as an ashtray or wastebasket. **Saves 400 to 600 gallons** per month.

9. Capture tap water. While you wait for hot water to come down the pipes, catch the flow in a watering can to use later on house plants or your garden. **Saves 200 to 300 gallons** per month.

10. Don't water the sidewalks, driveway or gutter. Adjust your sprinklers so that water lands on your lawn or garden where it belongs-- and only there. **Saves 500 gallons** per month.





## In the bathroom:

1. Put a plastic bottle or a plastic bag weighted with pebbles and filled with water in your toilet tank. Displacing water in this manner allows you to use less water with each flush. **Saves 5 to 10 gallons** a day. That's **up to 300 gallons** a month, even more for large families. Better yet, for even greater savings, replace your water-guzzling five to seven gallon a flush toilet with a three and a half gallon, low flush, or one and a half gallon, ultra-low flush model.
2. If you're taking a shower, don't waste cold water while waiting for hot water to reach the shower head. Catch that water in a container to use on your outside plants or to flush your toilet. **Saves 200 to 300 gallons** a month.
3. Check toilet for leaks. Put dye tablets or food coloring into the tank. If color appears in the bowl without flushing, there's a leak that should be repaired. **Saves 400 gallons** a month.
4. Turn off the water while brushing your teeth. **Saves three gallons** each day.
5. Turn off the water while shaving. Fill the bottom of the sink with a few inches of water to rinse your razor. **Saves three gallons** each day.



## In the kitchen and laundry:

1. If you wash dishes by hand--and that's the best way--don't leave the water running for rinsing. If you have two sinks, fill one with rinse water. If you only have one sink, use a spray device or short blasts instead of letting the water run. **Saves 200 to 500 gallons** a month.
2. When washing dishes by hand, use the least amount of detergent possible. This minimizes rinse water needed. **Saves 50 to 150 gallons** a month.



3. Keep a bottle of drinking water in the refrigerator. This beats the wasteful habit of running tap water to cool it for drinking. **Saves 200 to 300 gallons** a month.
4. Don't defrost frozen foods with running water. Either plan ahead by placing frozen items in the refrigerator overnight or defrost them in the microwave. **Saves 50 to 150 gallons** a month.
5. Don't let the faucet run while you clean vegetables. Rinse them in a filled sink or pan. **Saves 150 to 250 gallons** a month.
6. Use the garbage disposal less and the garbage more (even better--compost!). **Saves 50 to 150 gallons** a month.